



News Release

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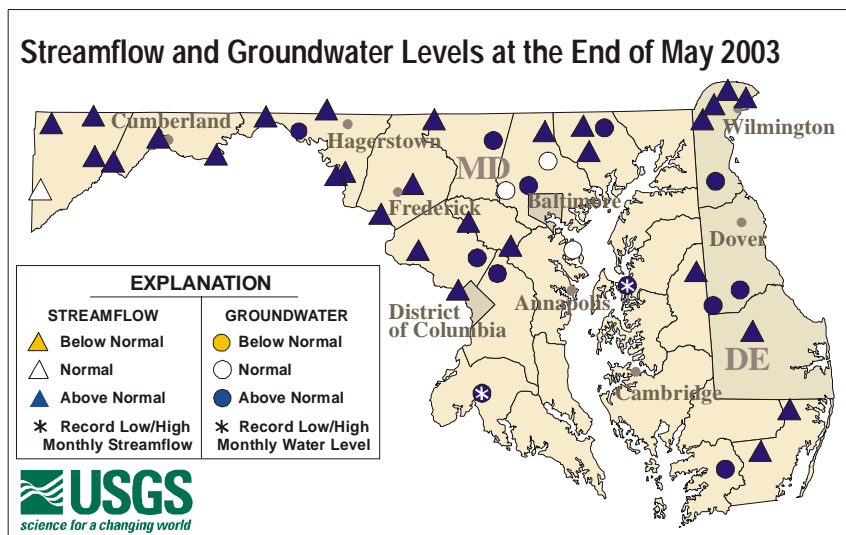
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Streamflow and Groundwater Levels High in May

A very rainy May led to above normal streamflow and groundwater levels in many streams and wells across Maryland and Delaware, according to hydrologists at the U.S. Geological Survey (USGS) in Baltimore. Groundwater levels were above normal in all but three of the wells used by the USGS to monitor climatic conditions in the bi-state region for May. Streams across the region were also flowing above normal and some have set new daily high and monthly records.

Cool temperatures and slow-moving storms caused persistent rainfall in during May 2003 that led to an extremely wet month. May 2003 was the wettest month since September 1999, when tropical storm Floyd engulfed the region, according to the National Weather Service. It was the sixth wettest May for Washington, D.C. and the seventh wettest May for Baltimore.

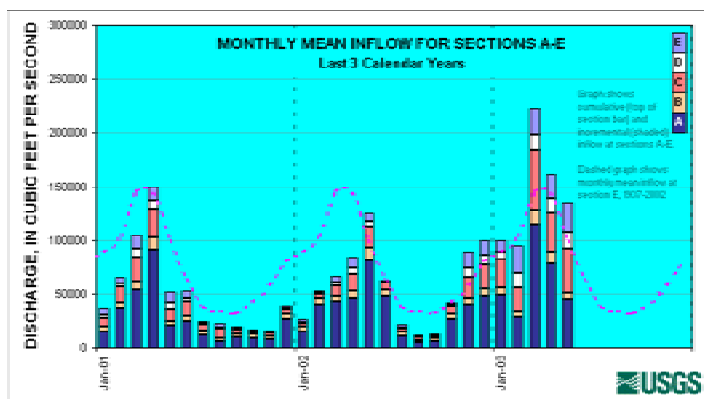


For news release and images, go to http://md.water.usgs.gov/publications/press_release/current/.

Groundwater levels are expected to drop during the growing season because of increased demand, but the abundant rainfall has raised groundwater levels, recharged the aquifers, and saturating the soil, making it difficult for farmers. Wells in Charles and Queen Annes Counties, Maryland set monthly high records. This is a large contrast to 2002, a drought year, when eight wells were setting monthly low records. For 5-year hydrographs of groundwater levels, visit: <http://md.water.usgs.gov/groundwater/>.

Streamflow levels have also been above normal across Maryland and Delaware at the end of May. With groundwater and streamflow levels already high, there is the potential for localized flooding. The average monthly streamflow at the Potomac River near Washington, D.C. was 22.0 bgd (billion gallons per day), or 132 percent above normal (see graphs at <http://md.water.usgs.gov/monthly/poto.html>). Streamflow data can be monitored on the web at <http://waterdata.usgs.gov/nwis/rt>. Five-year monthly streamflow hydrographs can be viewed on the USGS website at <http://md.water.usgs.gov/surfacewater/streamflow/>.

Total flow into the Chesapeake Bay during May averaged 87 bgd (billion gallons per day), which is 36 percent above average. For the first 5 months of this year, the flow into the Bay has averaged 92.1 bgd, which is about twice the amount the first 5 months of last year (45.8 bgd). Average flow for the 5-month period was 76.4 bgd, resulting in 20 percent more total flow than average. During the drought over the past 2 years, water clarity conditions in the Bay have improved because less nutrients and sediment were flowing into the Bay. Conditions have changed this spring because of increased flow. The graph below shows the total flow into the Chesapeake Bay at different locations along the Bay (see <http://md.water.usgs.gov/monthly/bay1.html>). The dashed line shows the monthly mean inflow. There were several months below normal during the drought years of 2001 and 2002. In 2003, the total flow has been above average.



The possible consequences of increased streamflow into the Bay include degraded water-quality conditions in the spring and summer as larger amounts of nutrients and sediment are carried into the Bay. Higher nutrient levels lead to algal blooms, which can decrease the amount of dissolved oxygen in the Bay and result in fish kills. The algal blooms, along with increased amounts of sediment, can cause a decrease in the light needed by the underwater grasses in the Bay. The grasses are important habitat for crabs and food for waterfowl. More information about water quality and the Chesapeake Bay can be found at <http://md.water.usgs.gov/monthly/bay.html>.

Reservoir storage levels in both the Baltimore reservoir system and the Triadelphia and Duckett Reservoirs on the Patuxent River were at full capacity in May. Reservoir data graphs can be viewed at: <http://md.water.usgs.gov/>.

Streamflow and groundwater levels are used to gauge water conditions and can be used to predict the potential for flooding and drought conditions. These USGS data have been provided to State and local water resource managers and are critical for making appropriate decisions on water restrictions. For more information on streamflow and groundwater levels in Maryland and Delaware, see Water Watch at: <http://md.water.usgs.gov/waterwatch>.

The real-time streamflow stations used in this analysis are operated in cooperation with the Maryland and Delaware Geological Surveys, the Maryland State Highway Administration, the U.S. Army Corps of Engineers, the Maryland Department of Natural Resources, the Maryland Department of the Environment, Baltimore County, and other agencies. The observation wells used in this analysis are operated in cooperation with the Maryland and Delaware Geological Surveys. The USGS publishes data for 128 streamflow stations and 379 wells across Maryland and Delaware.

The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

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